## REMARKS

Pursuant to 37 CFR §§ 1.114 and 1.198, this Preliminary Amendment is being filed concurrently with a Request for Continued Examination (RCE) subsequent to a decision by the Board of Patent Appeals and Interferences on an appeal of the above-identified patent application. As sustained by the Board, Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,717,795 to Sharma et al., in view of the publication S.V. Kartalopoulos, *Introduction to DWDM Technology: Data in a Rainbow*, IEEE Press 41, 42 (2000). The remaining claims, namely Claims 21-26, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sharma in view of U.S. Patent No. 4,089,584 to Polczynski, and further in view of Kartalopoulos.

In this Preliminary Amendment, Applicants have amended independent Claims 1, 7, 12 and 21 to further clarify the claimed invention. As explained below, Applicants respectfully submit that the claimed invention is patentably distinct from Sharma, Kartalopoulos and Polczynski, taken individually or in combination. In view of the amendments to the claims and the remarks presented herein, Applicants respectfully request reconsideration and allowance of all of the pending claims of the present application.

### *A. Claims 1-20 are Patentable over Sharma/Kartalopoulos*

Briefly, Sharma discloses an optical wavelength division multiplexed network system that permits optical communications between any of a plurality of nodes via a main trunk line. As disclosed, the network system includes a plurality of nodes interconnected by an optical fiber in a ring form and includes a multi-wavelength light source for multiplexing and transmitting a plurality of lights having different wavelengths. Each of the nodes includes an add-drop multiplexer for extracting light of a particular wavelength among the lights of a plurality of wavelengths transmitted via the main trunk line into the node, and for inserting the light of the preset wavelength from the node into the main trunk line. Each node also includes at least one optical receiver for receiving part of the light extracted by the add-drop multiplexer, and a modulator for modulating light extracted by add-drop multiplexer with data to be transmitted and sending the light back to the add-drop multiplexer and on to the main trunk line.

Amended independent Claim 1 recites a closed-loop optical network system. As recited, the system includes a multi-mode network bus for transmitting a plurality of optical signals, and a multiplexer capable of wavelength division multiplexing a plurality of input optical signals for transmission via the network bus, where the input optical signals have predetermined optical wavelengths. The system also includes a plurality of add/drop multiplexers optically connected to the network bus and a plurality of remote devices. The remote devices are capable of reading optical signals having respective predefined optical wavelengths off of the network bus via respective add/drop multiplexers, and capable of writing optical signals having respective predefined optical wavelengths onto the network bus via respective add/drop multiplexers. In this regard, one or more of the add/drop multiplexers is assigned an optical wavelength that differs from the optical wavelength assigned to any other add/drop multiplexer. The system of amended independent Claim 1 also includes a demultiplexer capable of receiving optical signals having at least one of the predetermined optical wavelengths from the network bus, and thereafter wavelength division demultiplexing the optical signals into output optical signals.

In contrast to the system of amended independent Claim 1, neither Sharma nor Kartalopoulos (nor Polczynski), taken individually or in any proper combination, teach or suggest a closed-loop optical network including a multi-mode network bus and a plurality of add/drop multiplexers at least one of which is assigned an optical wavelength that differs from the optical wavelength assigned to any other add/drop multiplexer. One could argue that Sharma does disclose various embodiments of a closed-loop optical network including a plurality of add/drop multiplexers (see, e.g., FIGS. 1 and 4). In all such embodiments, however, Sharma explicitly discloses that each of its add/drop multiplexers shares a wavelength with another of its add/drop multiplexers. And as such an assignment of wavelengths permits communications between the nodes of the optical network, as also disclosed by Sharma, Applicants respectfully submit that it would not have been obvious to one skilled in the art to modify Sharma to include the aforementioned feature of amended independent Claim 1.

For at least the foregoing reasons, Applicants respectfully submit that amended independent Claim 1, and by dependency Claims 2-6, is patentably distinct from Sharma and Kartalopoulos, taken individually or in any proper combination. Applicants also respectfully

submit that amended independent Claims 7 and 12 recite subject matter similar to that of amended independent Claim 1, including a closed-loop network system with a multimode network bus and add/drop multiplexers at least one of which is assigned a frequency different from the frequency assigned to any other of the add/drop multiplexers. Thus, Applicants also respectfully submit that the amended independent Claims 7 and 12, and by dependency Claims 8-11 and 13-20, are also patentably distinct from Sharma and Kartalopoulos, taken individually or in any proper combination, for at least the same reasons given above with respect to amended independent Claim 1.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of Claims 1-20 as being unpatentable over Sharma, in view of Kartalopoulos is overcome.

***B. Claims 21-26 are Patentable over Sharma/Polczynski/Kartalopoulos***

As indicated above, Claims 21-26 currently stand rejected as being unpatentable over Sharma, in view of Polczynski and further in view of Kartalopoulos. Amended independent Claim 21 recites a vehicle adapted to support optical communications. As recited, the vehicle includes a vehicle body and a closed-loop optical network system. The closed-loop optical network system includes a network bus and a plurality of add/drop multiplexers optically connected to the network bus and a plurality of remote devices that are disposed at least partially throughout the vehicle. Similar to amended independent Claim 1, the network bus comprises a multi-mode network bus for transmitting a plurality of optical signals, and remote devices are capable of reading optical signals having respective predefined optical wavelengths off of the network bus via respective add/drop multiplexers, and capable of writing optical signals having respective predefined optical wavelengths onto the network bus via respective add/drop multiplexers. Also similar to amended independent Claim 1, one or more of the add/drop multiplexers is assigned an optical wavelength that differs from the optical wavelength assigned to any other add/drop multiplexer. The network system further includes a multiplexer capable of wavelength division multiplexing a plurality of input optical signals for transmission via the network bus, and a demultiplexer capable of receiving optical signals having at least one of the

predetermined optical wavelengths from the network bus, and thereafter wavelength division demultiplexing the optical signals into output optical signals.

In contrast to amended independent Claim 21, and for at least the same reasons given above with respect to amended independent Claim 1, Applicants respectfully submit that Sharma and Kartalopoulos, taken individually or in any proper combination, do not teach or suggest a closed-loop optical network including a multi-mode network bus and a plurality of add/drop multiplexers at least one of which is assigned an optical wavelength that differs from the optical wavelength assigned to any other add/drop multiplexer. Similarly, Applicants further respectfully submit that Polczynski does not teach or suggest the aforementioned closed-loop network system of amended independent Claim 21. Applicants therefore respectfully submit that amended independent Claim 21, and by dependency Claims 22-26, is patentably distinct from Sharma, Polczynski and Kartalopoulos, taken individually or in any proper combination.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of Claims 21-26 as being unpatentable over Sharma, in view of Polczynski and further in view of Kartalopoulos is overcome.

## CONCLUSION

In view of the amendments to the claims, and the remarks presented above, Applicants respectfully submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues. It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

Andrew T. Spence
Registration No. 45,699

**Customer No. 00826**
**ALSTON & BIRD LLP**
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111
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